Title

Trends in medical and surgical admission length of stay by race/ethnicity and socioeconomic status: a time series analysis

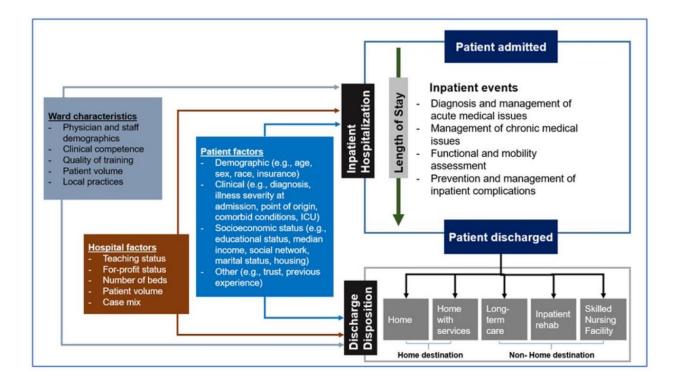
Authors

Arnab K. Ghosh MD, MSc, MA¹ Mark Unruh PhD, MSc² Orysya Soroka MS¹ Martin Shapiro MD, PhD, MPH¹

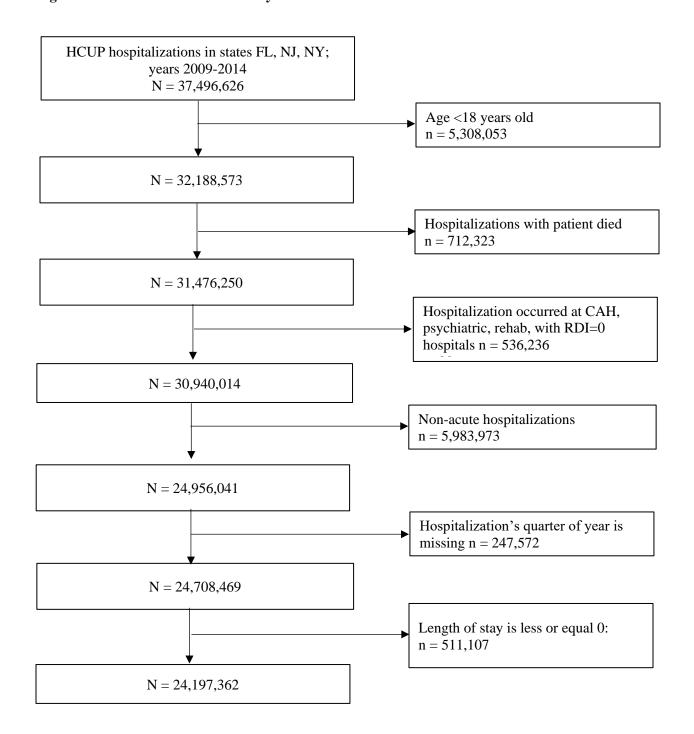
Supplement

- eFigure 1: Evidence-based conceptual framework for novel risk-adjusted methodology for hospital length of stay
- eFigure 2. Exclusion Cascade for study
- eTable 1: All diagnoses by ICD-9 code
- eFigure 3: Racial/ethnic and socioeconomic status (SES) differences in average adjusted length of stay (aALOS) by discharge destination, HEART FAILURE admissions in New York, Florida, and New Jersey, 2009 to 2014
- eFigure 4: Racial/ethnic and socioeconomic status (SES) differences in average adjusted length of stay (aALOS) by discharge destination, PNEUMONIA admissions in New York, Florida, and New Jersey, 2009 to 2014
- eFigure 5: Racial/ethnic and socioeconomic status (SES) differences in average adjusted length of stay (aALOS) by discharge destination, COPD admissions in New York, Florida, and New Jersey, 2009 to 2014
- eFigure 6: Racial/ethnic and socioeconomic status (SES) differences in average adjusted length of stay (aALOS) by discharge destination, ACS/AMI admissions in New York, Florida, and New Jersey, 2009 to 2014
- eFigure 7: Racial/ethnic and socioeconomic status (SES) differences in average adjusted length of stay (aALOS) by discharge destination, TKR admissions in New York, Florida, and New Jersey, 2009 to 2014
- eFigure 8: Racial/ethnic and socioeconomic status (SES) differences in average adjusted length of stay (aALOS) by discharge destination, THR admissions in New York, Florida, and New Jersey, 2009 to 2014

eFigure 1: Evidence-based conceptual framework for novel risk-adjusted methodology for hospital length of stay



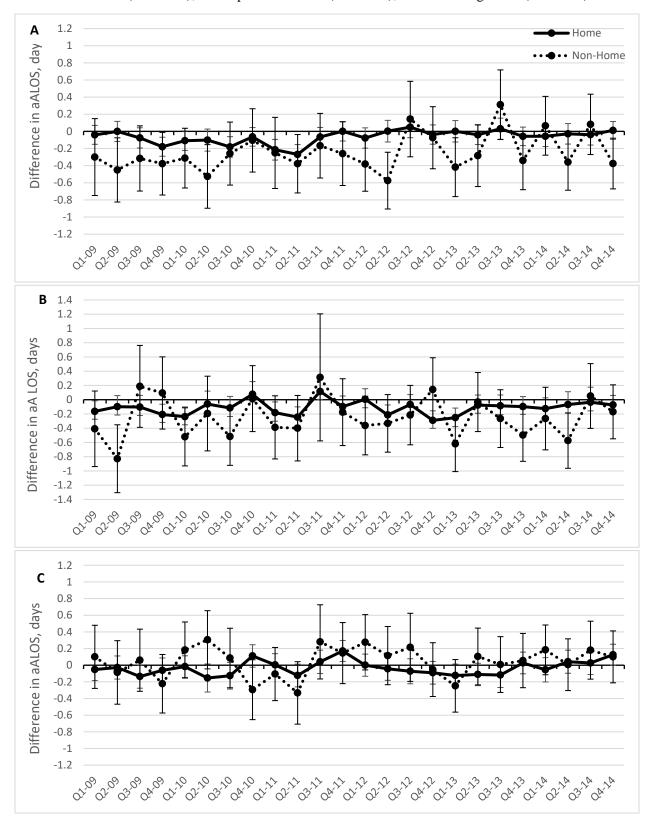
eFigure 2. Exclusion Cascade for study



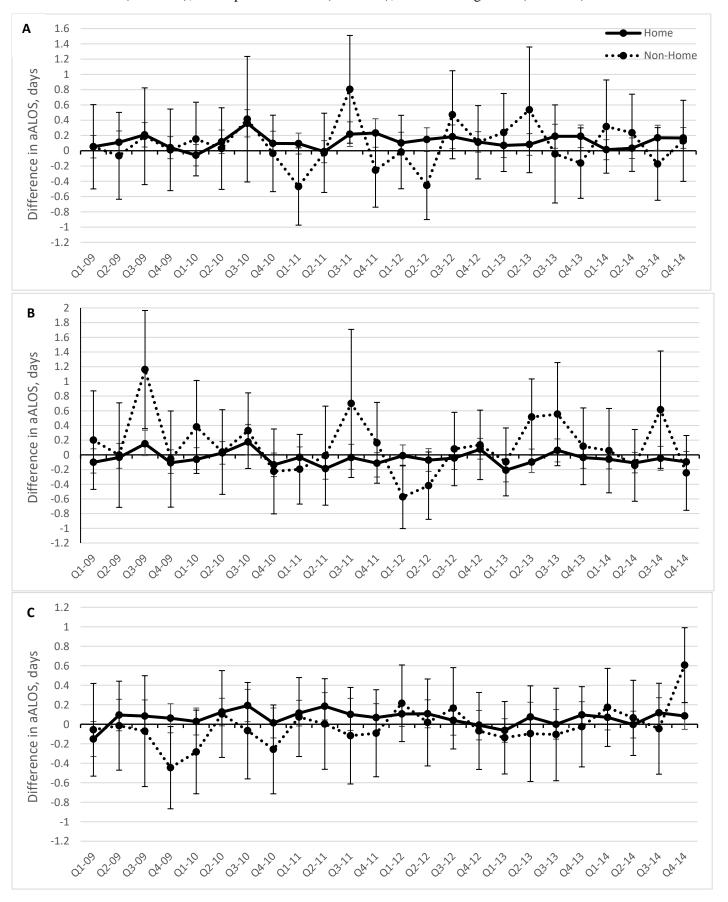
eTable 1: All diagnoses by ICD-9 code

	ICD-9 codes
Pneumonia	480.x, 481.x, 482.x, 483.x, 484.5, 486.x, 487.0, 488.11
Acute coronary syndrome/acute myocardial infarction	410.xx excluding those with 410.x2 (AMI, subsequent episode of care) 411.1 (unstable angina)
Chronic obstructive pulmonary disease	491.xx - chronic bronchitis, 492.xx - emphysema, 493.2 - chronic obstructive asthma, 496.xx - chronic airway obstruction, not elsewhere classified
Heart failure	402.01, 402.11, 402.91, 404.01, 404.03, 404.11, 404.13, 404.91, 404.93, 428.xx, 398.91
Total knee replacement	81.54 (procedure code)
Total hip replacement	81.51 (procedure code)

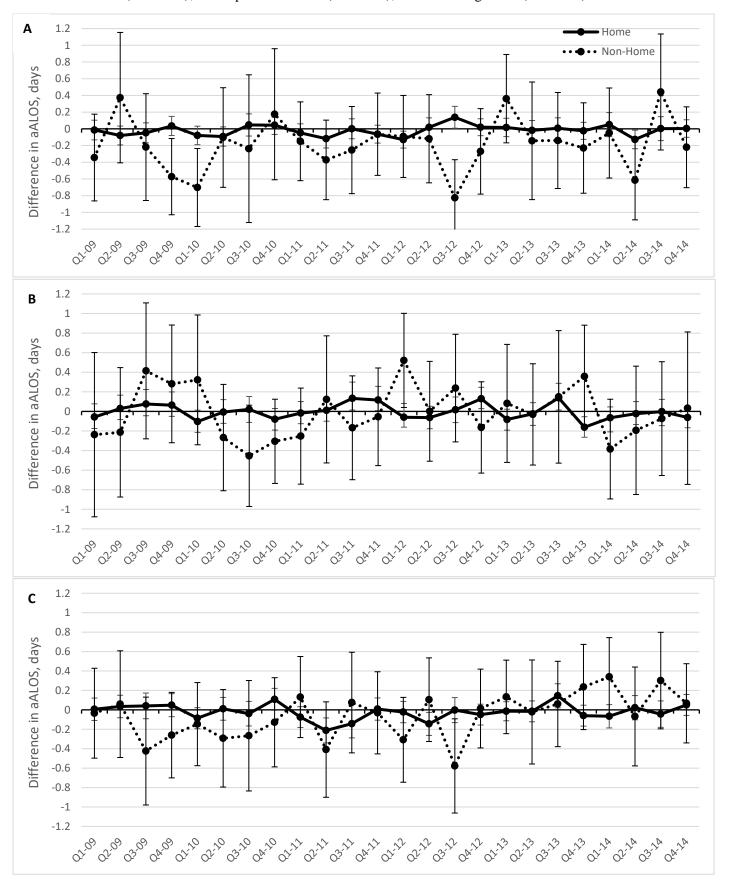
eFigure 3: Racial/ethnic and socioeconomic status (SES) differences in average adjusted length of stay (aALOS)¹ by discharge destination, HEART FAILURE admissions in New York, Florida, and New Jersey, 2009 to 2014



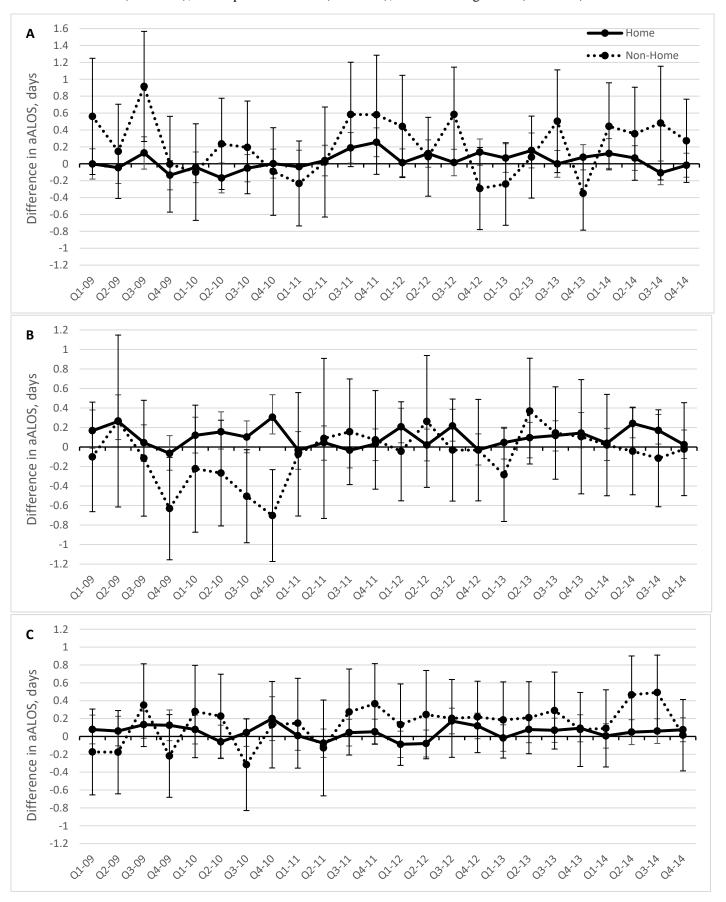
eFigure 4: Racial/ethnic and socioeconomic status (SES) differences in average adjusted length of stay (aALOS) ¹ by discharge destination, PNEUMONIA admissions in New York, Florida, and New Jersey, 2009 to 2014



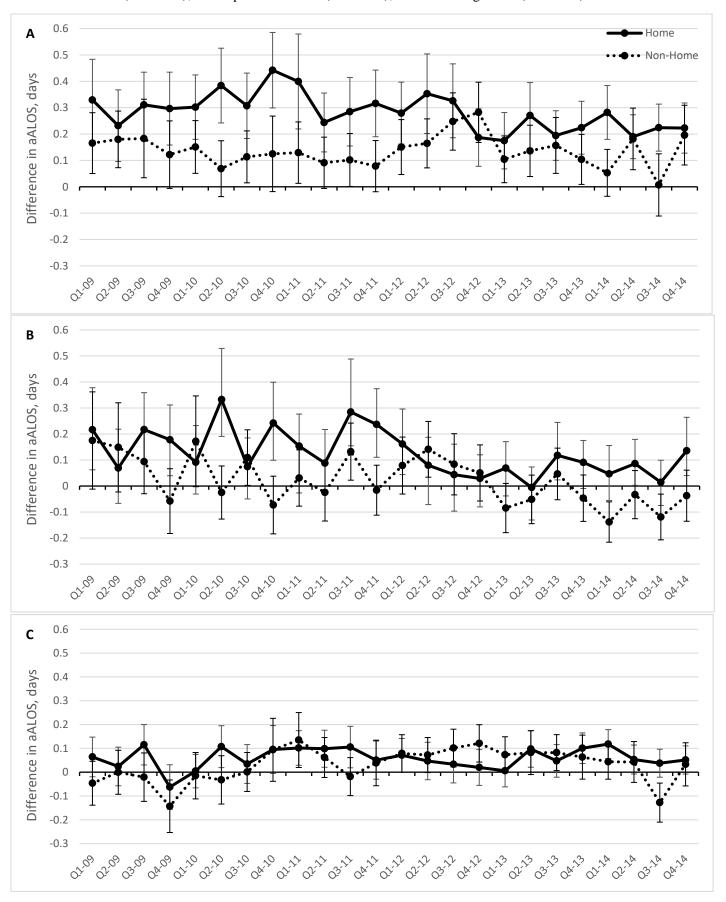
eFigure 5: Racial/ethnic and socioeconomic status (SES) differences in average adjusted length of stay (aALOS) ¹ by discharge destination, COPD admissions in New York, Florida, and New Jersey, 2009 to 2014



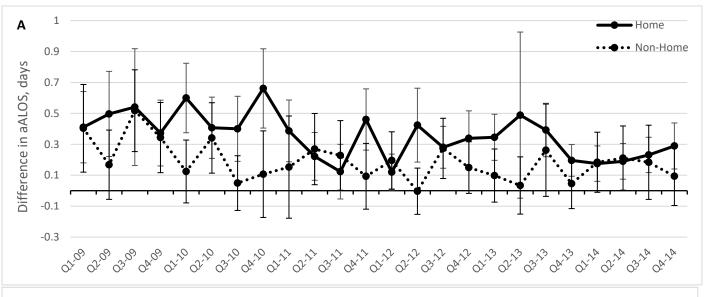
eFigure 6: Racial/ethnic and socioeconomic status (SES) differences in average adjusted length of stay (aALOS)¹ by discharge destination, ACS/AMI admissions in New York, Florida, and New Jersey, 2009 to 2014

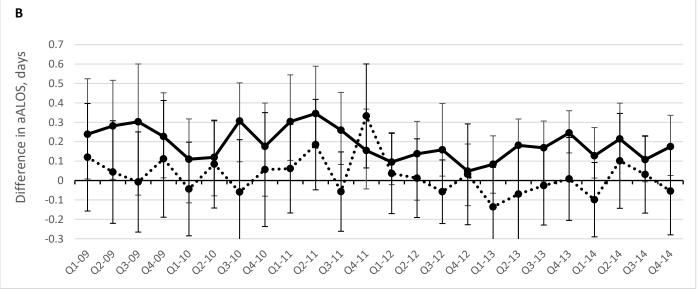


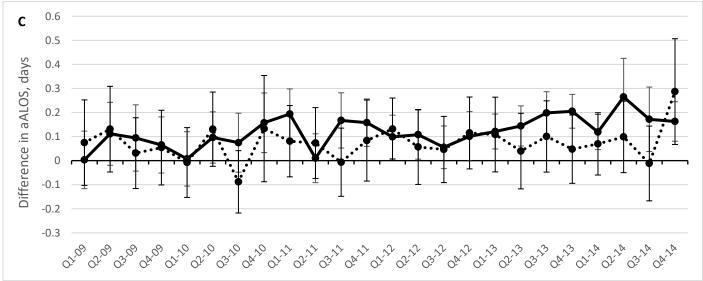
eFigure 7: Racial/ethnic and socioeconomic status (SES) differences in average adjusted length of stay (aALOS) ¹ by discharge destination, TKR admissions in New York, Florida, and New Jersey, 2009 to 2014



eFigure 8: Racial/ethnic and socioeconomic status (SES) differences in average adjusted length of stay (aALOS) ¹ by discharge destination, THR admissions in New York, Florida, and New Jersey, 2009 to 2014







¹ aALOS calculated using two multi-variate generalized linear models treating length of stay as a gamma-distributed variable. Model 1 assessed race/ethnicity as the exposure, and controlled for age, sex, SES, health insurance type (Medicare, Medicaid, private insurance, or self-pay), indicator of weekend admission, number of chronic conditions, Elixhauser-related mortality score, and individual intercepts for time-quarter, diagnosis-related group, and hospital, with standard errors clustered at hospital level. Model 2 assessed SES as its exposure, with the same control variables as Model 1.